Homework 4 - Experiments
CS157b
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1. <u>Database 1 & Database 2</u>
   File Formate Write Version: 1 / Hex = 0x01
   File Formate Read Version: 1 / Hex = 0x01

   What page numbers are stored in the journal file?
   Database Page Size: 4096 / Hex = 0x1000 —This is where the data starts getting stored (byte offset)
   Where might correspond to these page numbers?
   Database Page Size: 4096 / Hex = 0x1000 —This is where the data starts getting stored (byte offset)
   0A0FD000 0FFC0FF8 0FF30FEE 0FE90FE4 0FDF0FDA 0FD50FD0 = In the Journal File and in DB2.sqlite Matching Hex
   Does the journal file change?
   The journal file doesn't change.
   Why or why not?
   All the journal file keeps is the old state of the database, not any new inserts, updates, or deletes.
   If you do a END TRANSACTION what happens to the log record?
   The log record is deleted.
   Do a ROLLBACK, what happens to the journal file?
   The journal file is also deleted.

   <u>Database 3 & Database 4</u>

   What page numbers are stored in the journal file?

   Where might correspond to these page numbers?
   AT location 16 bytes with offset 41268 HEX matches DB3.sqlite
   Does the journal file change?
   yes
   Why or why not?
   It's keeping track of all the inserts, updates, or deletes
   If you do a END TRANSACTION what happens to the log record?
   the contents from the journal file are written to the database.
   Do a ROLLBACK, what happens to the journal file?
   The journal file keeps track that a rollback has happened.

2. The Java program is setup to run through the tests as a read commit and serializable. In both cases, I first executed a command to read the largest value in the database I had the database add the value 13 or 15, which becomes the

largest value in the database, and then read from the database once again. In both cases, it read the value from the database as the largest before the right, and the after the write was complete, it read the new largest value.

***Creating Database...

Table R created.
Row 0 inserted.
Row 1 inserted.
Row 2 inserted.
Row 3 inserted.
Row 4 inserted.
Row 5 inserted.
Row 6 inserted.
Row 7 inserted.
Row 8 inserted.
Row 9 inserted.

***Read Committed transaction...
set isolation level read committed
pass
Result: Col0=4
pass
pass
Result: Col0=4
pass

***Read serializable transaction...
set isolation level serializable
Read count succeeded
Result: Col0=13
pass
Result: Col0=4
pass
pass
Result: Col0=4
pass
***Destroying Database...

Process finished with exit code 0